Public Health Information Dissemination

Center for Surveillance, Epidemiology, and Laboratory Services (CSELS)
Division of Public Health Information Dissemination (DPHID)

Overview

Our Mission: To strengthen public health science and improve public health decision making and practice to achieve positive health outcomes

Our Services

Clinicians, public health professionals, policymakers, communities, and individuals need timely, accurate information to make decisions to maintain and improve health. We meet that need with tools that improve public health decision making at all levels.

Our Programs and Activities

- *CDC Vital Signs*™
- The Community Guide
- Informatics Innovations Unit (IIU)
- *Morbidity and Mortality Weekly Report (MMWR)* Series
- Office of Public Health Genomics
- Stephen B. Thacker CDC Library

Our Work

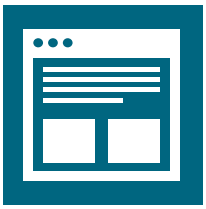
- **Contribute to the evidence base** for improving public health.
- **Share timely, credible public health science** by developing and deploying innovative products, tools, and strategies.
- **Use proven strategies** to increase use of division products and services by our CDC colleagues, public health professionals, and healthcare providers.
- **Evaluate the impact** of our products and services.

Division Highlights

Our programs have a broad and diverse reach.

The CDC Library provided access to more than **1 million** electronic article downloads in FY2015

CDC Vital Signs™ had a total electronic reach of more than **6.6 million** exposures in FY2015



MMWR's electronic media reach was more than **23 million** in FY2016—up 3% since FY2014

Our programs support crucial CDC-wide activities.

Since September 2014, *MMWR* has published **80 reports** on Ebola and the public health response

We have leveraged **federal partnerships** to expand access to library resources at state health departments

Community Preventive Services Task Force recommendations inform CDC's initiative to drive **healthcare system transformation**

Moving Toward the Future

We will continue supporting the nation's ability to respond rapidly and efficiently to disease outbreaks, natural disasters, and other health threats by

- **Enhancing *MMWR*** to meet the needs of current users and the next generation
- **Supporting national initiatives** to link health care and public health and to accelerate healthcare transformation
- **Strengthening traditional and nontraditional partnerships** to increase use, and therefore impact, of our products
- **Strengthening an evaluation infrastructure** to assess and continuously improve our work.

CDC Vital Signs™

Each month ***CDC Vital Signs*** shines a spotlight on some of the most important health issues facing Americans today. Each issue—published as a technical report in CDC's flagship journal, *Morbidity and Mortality Weekly Report (MMWR),* and in lay language in other formats—calls the nation to action. It documents where we stand now and what we can do to improve the public's health.

CDC Vitalsigns™

Our Services

Each monthly issue of *CDC Vital Signs* includes

- A **scientific article** published in *MMWR,* written by subject matter experts at CDC
- A printable, **plain language fact sheet** with infographics and detailed recommendations for stakeholders, written by scientific, policy, and communications experts in each field
- More than **20 communication products** each month, many in English and Spanish. These include web-based podcasts, webinars, buttons and badges, digital press kits, infographics, and links to the science behind the issue
- A **systematic outreach strategy** that includes media briefings by CDC leadership, letters to members of Congress, outreach to medical partners and critically important nonprofit organizations, and widespread distribution on social media channels.

CDC Vital Signs releases separate material written for different audiences—**scientists,** who need more technical details, and the **general public** and other **stakeholders,** who need more easily understandable information for action.

Our Impact

- ***CDC Vital Signs* reports each month on high-priority topics affecting the public's health.** Each issue describes the problem and offers concrete steps to address it—steps that can be taken by a variety of audiences. Readers report they use it to
  - ✓ Improve their understanding of an issue
  - ✓ Inform and implement programs for their constituents
  - ✓ Influence policy at the local, regional, or state level
  - ✓ Find timely recommendations that improve the health of those in their care.
- **Our products are award-winning.** *CDC Vital Signs* won the Secretary of Health and Human Services' **HHS Innovates Award in 2011**—its first year of production. It has also won **national communications awards** for clarity and plain language and **CDC and Agency for Toxic Substances and Disease Registry (ATSDR) Honor Awards,** including the Director's Award for Public Health Impact, Health Equity Award, Plain Writing Act Award, and Excellence in Quantitative Sciences.
- **The nation is paying attention.** In FY2015, total electronic reach was more than **6 million potential views** from traffic to the *CDC Vital Signs* website, social media followers, and electronic subscribers.

scienceclips CDC

Each month's *CDC Vital Signs* includes an ***MMWR* article**. A bibliography on the subject is published in the CDC Library's ***Science Clips* digest**. Calls to action are based on recommendations from the Community Preventive Services Task Force when available.

Who We Reach

CDC Vital Signs reaches the audiences that are important voices in public health.

The National Media

From 2011 to 2015, an average of about **750 news stories** and **$1.5 million in earned media value** occurred for each issue. Individual topics are regularly featured in *The Wall Street Journal*, *The Washington Post*, *The New York Times, Los Angeles Times*, *USA Today,* National Public Radio, and other national network news channels.

Decision Makers

CDC Vital Signs material has been presented to the **U.S. Senate** and the **U.S. Surgeon General.**

Healthcare Providers

Featured by major medical organizations, websites, and journals, information from *CDC Vital Signs* reaches **millions** of doctors, nurses, nurse practitioners, physician assistants, pharmacists, and others.

State and Local Health Departments

A 2012 evaluation showed that approximately **75% of health departments** knew about *CDC Vital Signs*. Half of them used it to improve their understanding of a health-related topic, and about 20% used it to develop and implement local programs.

The Community Guide

We support the work of the **Community Preventive Services Task Force (Task Force)** by sharing information on what works to improve public health. Task Force recommendations and other findings are compiled in *The Community Guide* to help inform the decision making of federal, state, and local health departments, other government agencies, communities, healthcare providers, employers, schools, and research organizations.

The Community Guide

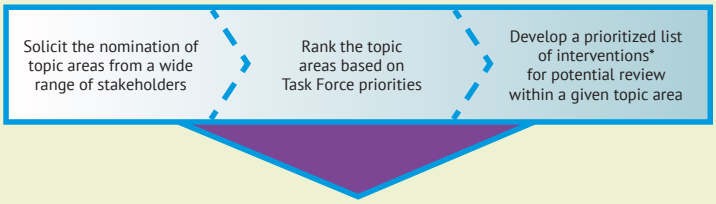
Our Services

- **Conduct systematic reviews.** Task Force recommendations and other findings are based on systematic reviews. We manage more than **220 Task Force findings and related systematic reviews** across more than **20 topic areas** and refine the methods and processes for conducting quality and useful systematic reviews.
- **Share evidence-based results.** We help stakeholders use the recommendations and other findings in *The Community Guide* by **conducting webinars, providing direct technical assistance, and maintaining a website** that tailors information to each user, offers support in assessing and implementing Task Force recommendations, and enables users to share information with and learn from each other. The branch provides program management, operations support, and communication to help coordinate and disseminate Task Force findings and recommendations.

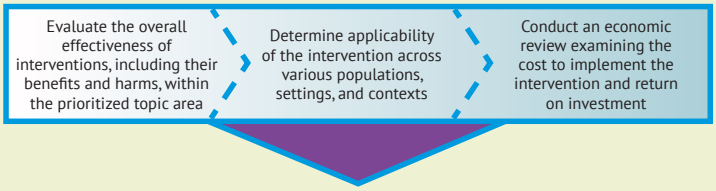
Community Preventive Services Task Force

The Community Guide Systematic Review Process

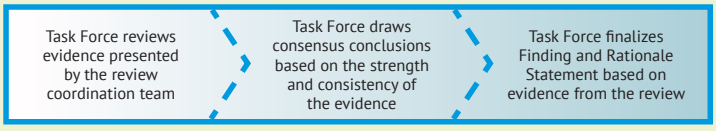
Prioritize Topic Areas for Review



Conduct Evidence-Based Intervention Review



Community Preventive Services Task Force Makes Recommendation



*Interventions refer to programs, services, and policies.

Our Impact

- **Task Force recommendations and other findings inform national and state policy and practice.** Decision makers and population health professionals across the country have used *The Community Guide* to make people safer and healthier.
- **When implemented, Task Force recommendations and other findings reduce health and economic burdens from disease, injury, and disability.** The findings of the Task Force are an important component of CDC's 6|18 Initiative to strengthen the interface between public health and health care. The initiative targets six common and costly health conditions—tobacco use, high blood pressure, healthcare-associated infections, asthma, unintended pregnancies, and diabetes. The Task Force identifies programs, services, and policies that can be carried out in communities, states, and healthcare settings to help save American lives and dollars, increase longevity, and improve quality of life.

The Community Guide in Action: Stories From the Field

The nationwide blood alcohol limit of 0.08% follows a Task Force recommendation. Citing evidence from the Task Force review and recommendation, the FY2001 transportation appropriations bill required states to pass the **0.08% blood alcohol concentration law** by October 2003 or risk losing federal highway construction funds. Since the bill passed, all 50 states have enacted legislation dropping the legal blood alcohol concentration, saving an estimated 400–600 lives per year.

In implementing their home visiting program, the Montana Department of Public Health and Human Services used a Task Force recommendation for home-based, multi-trigger, multicomponent environmental interventions that support **children and adolescents with asthma**. CDC awarded the agency funding for a quality improvement plan, which referenced the Task Force recommendation. Within 1 month, the proportion of children in the program who experienced asthma-related symptoms dropped from 23% to 7%.

In Illinois, concerns of rising obesity rates led policymakers to write a plan for state standards that enhance **physical education in schools** based on evidence-based intervention strategies from *The Community Guide*. The plan requires regular fitness testing in every school, as well as curriculum development. About 350–700 teachers are being trained to implement the related standards.

Child safety seat use increased by 34% on the Yurok Tribe Reservation, 4 years after starting Buckle Up Yurok (BUY), a **motor vehicle injury prevention** program developed by the California Rural Indian Health Board. In 2010, the board received a CDC grant to launch BUY. The grant required the program to use motor vehicle injury prevention strategies recommended by the Task Force. Program coordinator Danielle Lippert says, "The [Task Force's] findings helped us choose interventions that we could be confident were effective."

Informatics Innovation Unit (IIU)

The mission of the Informatics Innovation Unit (IIU) is to improve public health through the **development and discovery of innovative technology solutions**. IIU's goal is to facilitate cost and time savings, improve decision making, and provide creative solutions to augment public health impact.

Learn more about IIU

www.phiresearchlab.org

Our Services

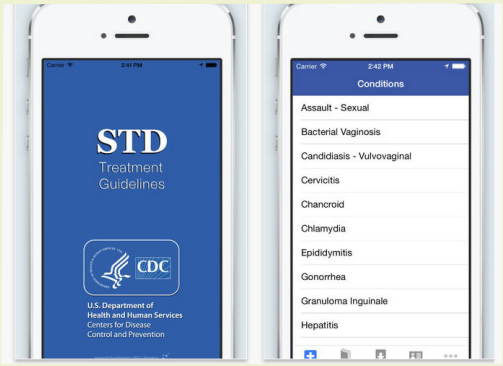
- **Consultation and guidance.** IIU's cross-functional team helps plan approaches to and strategies for informatics and technology questions.
- **Product design and development.** We quickly develop cutting-edge software applications for mobile devices and the web. We also create visual mockups (early design sketches) and prototypes to test new ideas and concepts. This enables programs to better refine requirements and test software and architectural approaches without the heavy commitment of resources.
- **Computing resources.** We provide on-demand, virtualized computing environments separate from the CDC network in a private cloud. IIU-hosted virtual desktops and servers are accessible anywhere in the world. Programs use our virtual project space to perform alternatives analysis, user acceptance testing, and baseline configuration development, and to estimate what hardware and software resources are needed.
- **Evaluation and testing.** Our team provides structured evaluations of technology, practices, and tools to assess their potential impact for public health. IIU personnel review existing or planned informatics or IT tools to help programs integrate new approaches.
- **Collaboration space.** IIU manages a physical collaboration space at CDC's Century Center campus in Atlanta, with demonstration capabilities, large video displays, Smart Board technologies, and Windows and Mac OS X workstations in an enclaved local area network—enabling in-person meetings for brainstorming, social media campaigns, communication activities, training, focus groups, and software demonstrations.

Our Impact

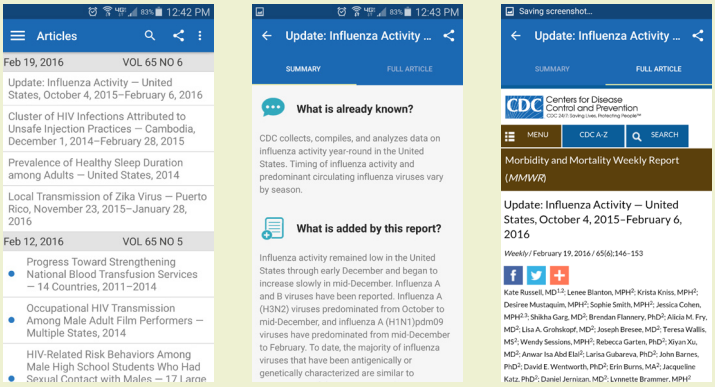
- **CDC is on the front lines protecting the public's health.** As technology changes, it's essential that CDC's workforce and health professionals have the most up-to-date technology resources available. We provide the expertise and environment to develop and test these resources.
- **A space to experiment and collaborate.** IIU provides an optimal, flexible, and scalable environment to rapidly develop, test, and evaluate prototypes outside the highly secure CDC network. Collaboration is vital to creating new informatics solutions that will improve public health practice.
- **Fast software application development.** We use the Scrum software methodology to quickly build applications. This process is iterative and incremental, which allows us to identify risk early in the development lifecycle.
- **We stay ahead of the curve.** IIU constantly explores new technologies—such as cloud computing, virtual reality, and innovative mobile devices—to assess their potential value to CDC programs. For example, our AppLab resource facilitates rapid testing and collaboration of prototype mobile applications.

Mobile Apps for High-Priority and Emerging Public Health Issues

Working with CDC's Division of STD Prevention, IIU developed and recently updated the **CDC STD Treatment Guidelines** mobile app for iOS and Android platforms. It's one of the most popular CDC-produced mobile apps to date.



Our team also developed the ***MMWR* Express** app for iOS (such as iPhone and iPad) and Android devices. The app provides fast access to the *Morbidity and Mortality Weekly Report (MMWR)* summary information and full articles.



Based on the version for Blackberry, our team developed an iOS version of the **Lifeguard app**, which helps CDC know the physical location of field staff—like Epidemic Intelligence Service officer, Dr. Kpandja Djawe (on the right)—deployed to handle crises such as Ebola.

Morbidity and Mortality Weekly Report (MMWR) Series

We are **"the voice of CDC"**—the *Morbidity and Mortality Weekly Report (MMWR)*. The *MMWR* Series is CDC's primary channel for sharing authoritative and timely health information. Our priority is clear—**publish reports and recommendations** that protect the nation's health, safety, and security. State and local health departments, healthcare providers, scientists, and others across the public health spectrum use information in the *MMWR* to improve public health.

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report

Our Services

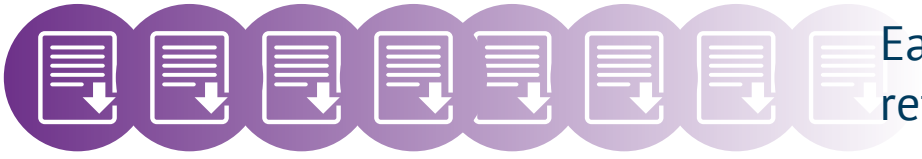
We publish the *MMWR* Series, which includes

- ***MMWR Weekly***, concise reports about current public health topics that inform urgent and non-urgent action, published as 51 issues a year
- ***MMWR Recommendations and Reports***, indepth reports that relay CDC policy statements for prevention and treatment
- ***CDC Surveillance Summaries***, comprehensive reports that provide detailed interpretations of trends and patterns for public health action
- ***MMWR Supplements***, reports such as compilations of historic events or proceedings from national conferences
- ***Summary of Notifiable Diseases—United States***, official statistics, in tables and graphics, for the occurrence of nationally notifiable infectious diseases in the United States.

Our Expertise

Public health professionals in government, academia, and health care are invited to submit articles for publication. Articles must be

- **Appropriate** for the public health community, with findings and recommendations based on science (especially epidemiology) or on public health policy or practice. Recommendations contained within reports must be acceptable to CDC.
- **Original**, without previously published information or recommendations.
- **High quality** analyses that use accepted scientific methods and sufficient data to address the topic.
- **Timely** and include the most current data from surveys, surveillance systems, or studies.
- **Clearly written** in language that readers can understand.



Each *MMWR* report is cited as a reference an average of **8 times**

Our Impact

- **We are nimble**. Legionnaires' disease in the 1970s, HIV/AIDS in the 1980s, toxic shock syndrome, hantavirus pulmonary syndrome, and severe acute respiratory syndrome (SARS) were all first reported in the *MMWR*. These reports allowed medical authorities to take early action and ensured that accurate information was available to the news media and the public.
- **Science published in *MMWR* is widely shared.** Redistribution of our content is one of the most important ways we make an impact. Many *MMWR* reports are broadly reported in the news and blogs. In addition, during 2014 and 2015, we released articles in tandem with several major medical journals including *The Journal of the American Medical Association* and *The New England Journal of Medicine*. Our reports also are highly cited, with an average of **eight citations per report** in the last two years.
- **We have a long history as "the voice of CDC."** The history of *MMWR* is the history of disease and injury prevention and control in the United States. First published as *The Bulletin of the Public Health* in 1878, *MMWR* plays a unique role in addressing emerging public health challenges by publishing preliminary investigations and recommendations to alert state and local health departments, as well as broader audiences.
- **We continue evolving to reach modern audiences.** In FY2016, *MMWR* had more than **278,000 electronic subscribers**, and our website and social media outlets had more than **22 million page views**. Our content is available through iPhone, iPad, and Android apps—*MMWR* Express. Our weekly podcasts, targeting a general audience, are among the most highly accessed CDC podcasts.

Milestones in *MMWR* History

1976–1977

An epidemic of pneumonia that followed the American Legion convention in the summer of 1976 led to much speculation in the media about the cause of the outbreak. Shortly after hospitalizations began, *MMWR* published the first report on what became known as **Legionnaires' disease**. By early 1977, CDC had identified the organism that caused the disease. The information was published in a special *MMWR* report, helping to quell concerns and prevent more cases.

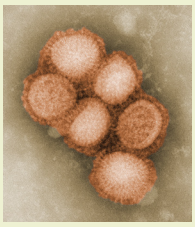
1981

After being alerted by a CDC Epidemic Intelligence Service officer assigned to the Los Angeles County Department of Health, *MMWR* published a report on five cases of a rare type of pneumonia in otherwise healthy young men. Thanks to this early alert, doctors across the country began recognizing similar cases—the first indication of the **AIDS epidemic.**

1989

MMWR published nine reports in less than a year on a rapidly developing epidemic of a potentially fatal neurological disease first noticed in New Mexico. *MMWR* reports linked the illness with use of contaminated **L-tryptophan dietary supplements**, which led to an FDA recall of L-tryptophan products.

2009



CDC discovered that two cases of febrile respiratory illness in children from Southern California were caused by a new H1N1 influenza virus that came from pigs—a new type of **swine flu**. These two cases—the first of the 2009 H1N1 pandemic—were reported as an *MMWR* Early Release.

2014–2016

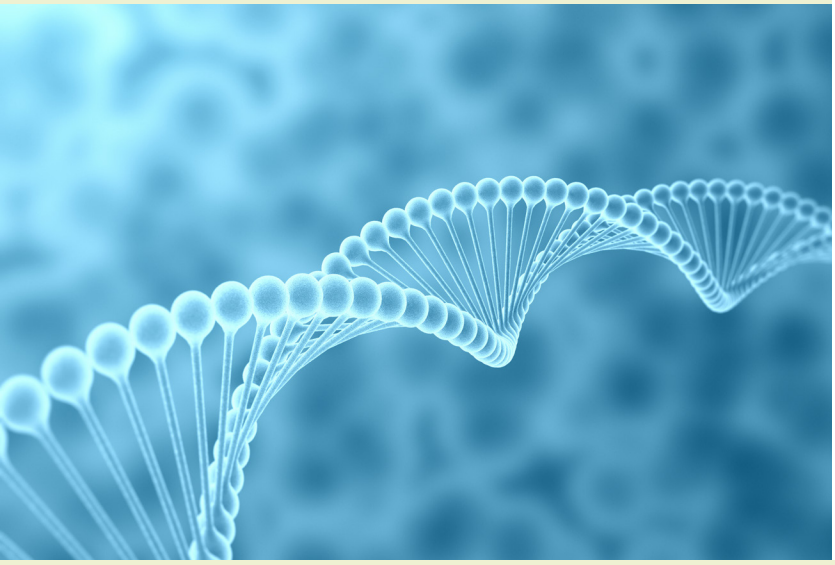
As an important part of CDC's largest emergency response, *MMWR* published 80 reports about Ebola, keeping officials and responders around the world up-to-date on the status of the **Ebola epidemic** and evolving best practices.

In FY2016, *MMWR*'s electronic reach included

>22 million	Web page views
>278,000	Electronic subscribers
>17,000	Facebook likes
>23,000	Twitter followers

Office of Public Health Genomics

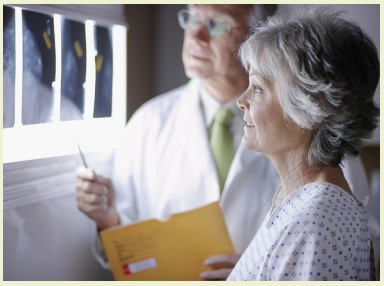
The Office of Public Health Genomics is committed to helping public health programs, healthcare providers, the general public, researchers, and policymakers effectively use genomic information to improve health. Established in 1997, our office helps translate **genome-based discoveries into practices** that help prevent and control the nation's leading chronic, infectious, environmental, and occupational diseases.



Our Services

- **Collect and disseminate** the latest information on the health impact of genomics and family health history using communication channels including scientific publications, a weekly electronic update, blogs, social media, podcasts, and videocasts.
- **Evaluate the evidence** available to support use of genomic information and family health history to identify people at risk for disease, tailor treatments, and inform prognoses for people already affected. We identify and promote understanding of which genomics and family health history applications do—and do not—have evidence supporting their use.
- **Provide resources that support state and local health departments** in using genomics to improve health in their states and communities, including a Genomic Application Toolkit with healthcare provider and patient educational materials and case studies describing successful state efforts to use genomic knowledge to improve health.

Where Genomics and Public Health Intersect



Each year, more than **200,000 women** in the United States are diagnosed with **breast cancer** and more than **20,000** are diagnosed with **ovarian cancer**. While most of these cancers happen by chance, some are hereditary. That means they are caused by genetic changes called mutations that are passed down in families. The genes most commonly affected in hereditary breast and ovarian cancer are the ***Breast Cancer 1 (BRCA1)*** and ***Breast Cancer 2 (BRCA2)*** genes. About **3% of breast cancers** (about 6,000 women per year) and **10% of ovarian cancers** (about 2,000 women per year) result from inherited mutations in the *BRCA1* and *BRCA2* genes.

All women should learn as much about their family health history of breast and ovarian cancer as possible in order to know if they are at hereditary risk. We provide information and resources to help women understand **what these mutations mean**, how knowing their **family health history** can help them learn about their risk and treatment options, what they will learn from **genetic testing,** and how **genetic counseling** can help.

Our Impact

- **Genomics plays a role in 9 out of 10 leading causes of death in the United States.** Genomic risk factors contribute to who gets sick and who does not from a variety of infectious, environmental, and occupational exposures. Better understanding of these genomic risk factors can help us know who is more likely to be affected and target prevention efforts to people most at risk.

- **Genomics can transform health care and public health.** A new focus on precision medicine and precision public health promises advances in the ability to not only treat disease more effectively in individuals, but also to prevent disease and promote health.

- **The number of genetic and genomic tests available is growing rapidly.** Tests looking at single genes have given way to multigene panels and whole genomic sequencing. We keep the public and health practitioners on top of the evidence so they can better understand which tests are—and are not—helpful in preventing illnesses and deaths.

- **We developed Family Healthware™.** It's one of the first web-based family health history collection tools to use evidence to assess family health history risk for six common diseases and provide personalized recommendations based on that risk. The Family Healthware Impact Trial, conducted from 2003 to 2008, was the first randomized clinical trial on using family health history to inform health practices and outcomes. The study found that 82% of participants had a strong or moderate family health risk for at least one disease studied, highlighting how the effective use of family health history can play an important role in improving health. As of 2016, the study had produced 12 publications. It continues to provide findings that show the value of using family health history tools like Family Healthware. These tools can
  - ✓ Get family members talking about health histories
  - ✓ Help people better understand their disease risk
  - ✓ Identify more people at risk for certain diseases, many of whom don't get needed screenings
  - ✓ Increase healthy behaviors.

Keeping Track of the Emerging Landscape of Genomics

The public has an increasing interest in genetic information—about themselves and their health. The recently launched Precision Medicine Initiative and other efforts will lead to millions of people having their genomes sequenced in the next decade. Our office supports CDC's commitment to address the need for credible and scientifically-based information on what genomic information means for health and how it can be used to reduce the burden of human diseases.

- **CDC-funded state programs show the potential of evidence-based use of genomics.** For example, interventions funded between 2008 and 2010 identified more than 15,000 people in Michigan who might benefit from evidence-based genomic testing recommendations and extended testing coverage through policy interventions.

www.cdc.gov/genomics

- ✓ Learn how and why to collect your family health history
- ✓ Explore how your state is using genomics to improve health
- ✓ Search our databases to find genomics information on your topic of interest
- ✓ Find out which genetic tests do—and do not—have evidence supporting their use

Stephen B. Thacker CDC Library

From the agency's first days, libraries have served as CDC's hub for research and information sharing. The Stephen B. Thacker CDC Library is a **full-service information resource center and scientific reference library** with access at our main library in Atlanta, at four other locations across the country, and online. CDC staff, contractors, and fellows—working in the United States and internationally—are the patrons who use our services to support their research and programs.

Our Services

- **Provide access.** Our team of professional librarians has more than **250 years of collective library science experience** working at CDC. They apply library science principles and current best practices to provide services such as complex literature searches in support of systematic reviews.
- **Maintain a comprehensive collection of electronic and print resources**. The library's collection includes the latest scientific resources and trends in addition to fundamental and rare resources. We have more than **120,000 unique items** in the library catalog, including more than 60,000 e-books, as well as seminal, rare, and historical books about public health.
- **Train CDC staff.** Our librarians use formal and informal opportunities to introduce new resources and services and instruct researchers on information management methods.

Centers for Disease Control and Prevention
STEPHEN B. THACKER CDC LIBRARY

In FY2016, we helped CDC staff access more than **1 million electronic article downloads** and responded to more than **850 literature search requests**

The Scopus database provides access to **18,000 scientific journals**

Our Impact

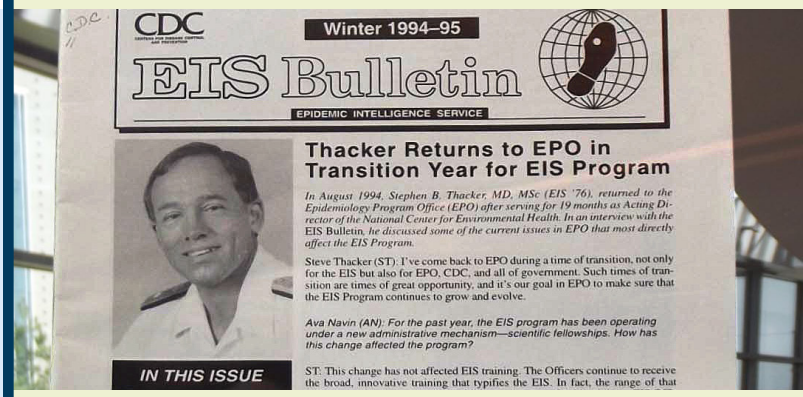
We support CDC's critical mission to protect the public's health.

- **Our highly trained staff supports scientific research and projects across CDC.** Our expert reference services include searches of library catalogs and online bibliographic databases.
- **We hold an extensive collection of journal articles and books.** The CDC Library has holdings in all areas of public health, disease, and injury prevention, as well as in other subjects including leadership, management, and economics.
- **We use emerging tools to help measure the impact of our work.** Integrating new services allows us to measure the attention being paid to our scholarly research.
- **We publish *Science Clips*.** This weekly online digest features new CDC-authored research publications and trending topic articles, providing the public health community quick access to emerging scientific knowledge.

The library dates back to 1946, when CDC was first established as the Communicable Disease Center. It was renamed in 2014 to honor **Dr. Stephen B. Thacker** who served CDC for 37 years as a public health advisor, mentor, and expert in infectious disease, epidemiology, and public health science.

scienceclips CDC

Science Clips reaches **24,000 subscribers** and is in the public domain. The digest highlights topics of interest for the scientific and public health communities and coordinates critical topics with *CDC Vital Signs™* and CDC's *Public Health Grand Rounds*. *Science Clips* is produced in collaboration with the Office of the Associate Director for Science.


CDC
Winter 1994–95
EIS Bulletin
EPIDEMIC INTELLIGENCE SERVICE
Thacker Returns to EPO in Transition Year for EIS Program
In August 1994, Stephen B. Thacker, MD, MSc (EIS '76), returned to the Epidemiology Program Office (EPO) after serving for 19 months as Acting Director of the National Center for Environmental Health. In an interview with the EIS Bulletin, he discussed some of the current issues in EPO that most directly affect the EIS Program.
Steve Thacker (ST): I've come back to EPO during a time of transition, not only for the EIS but also for EPO, CDC, and all of government. Such times of transition are times of great opportunity, and it's our goal in EPO to make sure that the EIS Program continues to grow and evolve.
Ava Navin (AN): For the past year, the EIS program has been operating under a new administrative mechanism—scientific fellowships. How has this change affected the program?
ST: This change has not affected EIS training. The Officers continue to receive the broad, innovative training that typifies the EIS. In fact, the range of that
IN THIS ISSUE

Dr. Thacker's first day on the job as an EIS Officer in 1976 had him investigating a mysterious type of pneumonia that turned out to be Legionnaires' disease. He was a long-time champion of the CDC Library and published more than 240 books and articles on a wide range of scientific topics.

We serve our patrons wherever they may be. CDC staff in Atlanta, across the United States, and internationally get quick access to library resources. We offer expert librarian services at our branches and through remote consultations. Through partners, we help state public health leaders access our resources.

Dr. Michael B. Gregg (1930–2008) was editor of the *Morbidity and Mortality Weekly Report (MMWR*)—"the voice of CDC"—from 1967 to 1988. Under his leadership, *MMWR* strengthened its ability to provide accurate and timely public health information to healthcare and public health professionals on a widening scope of topics. In 1981, Dr. Gregg made a historic decision to publish a report in *MMWR* about a cluster of cases of a rare type of pneumonia among previously healthy young men in Los Angeles. Later, the report was recognized as the harbinger of the HIV/AIDS epidemic.